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ABSTRACT

This study examined the relationship among accountability, efficacy, and organizational effectiveness by integrating findings from 17 research and development reports on Management by Objectives (MBO), an intervention that incorporates elements and processes of both accountability (goal-setting, measuring and monitoring, feedback) and efficacy (subordinate participation and interaction with supervisors). Findings from the reports were qualitatively integrated using propositional analysis, a technique that traces findings, generalizations, and recommendations and recasts them in ways that are relevant to the study. While these findings indicate a generally positive effect of MBO on productivity and attitudes, the study revealed four elements and processes in MBO that have been linked with efficacy: participation, interaction between supervisors and subordinates, managerial support, and positive reinforcement. While MBO programs generally lead to improved productivity and attitudes, several factors leave the cause of the gains open to interpretation: the frequent absence of control groups, a failure to note specific management philosophy behind each MBO program, a lack of description of the implementation process and its effects, and a lack of detail about day-to-day decision making and its effects. A 24-item bibliography is included and 10 tables from the study are appended. (TE)

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Efficacy and Accountability in Organizations

by Ulrich C. Reitzug

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Efficacy and Accountability in Organizations

I. PROBLEM STATEMENT

During its 1987 legislative session the Indiana State Legislature passed a $390 million package of education reforms. One of the key components of the reform package was an increased emphasis on school accountability. Specific items included performance-based accredidation for schools, mandatory evaluation systems for teachers and administrators and, rewards tied strictly to performance. The Indiana reform package is not unique. It is a representative example of similar accountabilit,-based school reform packages being passed by state legislatures throughout the country and indicative of the continued entrenchment of accountability as a part of mainstream school and organizational thinking in the United States.

Accountability stems from the predominant model of American organizations, the bureaucracy. Bureaucratic principles were first developed by Max Weber early in the 20th century. Weber wrote that "methodical provision" must be made for the "regular and continuous fulfillment" of duties (Gerth and Mills, p.196) and, that there be an "objective discharge of

business...according to calculable rules and without regard for persons" (p.215). The advantage of this style of management, Weber noted, lies in, "eliminating from official business...personal, irrational or emotional elements" (p.216).

The continued emphasis on accountability is reflected in a passage from a widely used textbook in organizational theory. "Control is a major responsibility of management, and...includes the three stages of target-setting, measuring and monitoring, and feedback" (Daft, 1986, p.316). Several assumptions are implicit in this statement:

1. targets and goals are prospectively specifiable;
2. activities leading to target and goal attainment are delineative and measurable;
3. appropriate feedback will cause people to alter their behavior, aligning it with organizational targets.

The validity of these assumptions and of accountability as a strategy for productivity is being challenged by many contemporary organizational theorists. They argue that:

1. Organizational goals are retrospective rather

than prospective (e.g. Weick, 1979; March and Olsen, 1979).

2. Cause and effect are arbitrary and multiple. Weick writes, "When any two events are related interdependently, designating one...cause and the other effect is an arbitrary designation" (1979, p.77) and, "there is no simple, finite set of causes for anything that happens in an organization" (p.246).
3. Feedback may cause temporary behavior change, but long range effectiveness comes from individuals with feelings of self-efficacy. Peters and Waterman write, "The lesson that excellent companies have to teach is that there is no reason why we can't design systems that continually reinforce this notion" [that every person is a "winner"] (1982, p.57). Instead of ridding official business of personal and emotional elements, as Weber advocated, contemporary theorists imply that attention to personal and emotional elements fosters productivity.

Some theorists argue that accountability and efficacy are complementary or, that a balance can be struck

between the two. For example, Fuller, Wood, Rapoport and Dornbusch write, "Evaluation activity has traditionally controlled behaviors of subordinate actors to ensure compliance with central goals. Evaluation processes may also influence individual efficacy...when the subordinate actor perceives that evaluation of his/her program is soundly-based" (1982, p.23-24). An evaluation is defined as soundly-based when the subordinate actor feels that it is affected by his/her performance. Unfortunately, the only time this is likely to occur is when the subordinate actor's performance is in the top 25% of all people performing similar tasks and is perceived as such by the evaluator. Since studies have shown that 70% of the population rate themselves as being in the top 25% on any given task (Peters and Waterman, 1982, p.57), if the individual is underrated on an evaluation (in his/her opinion), does s/he assume the evaluation is based on performance? Certainly not! The individual's sense-making powers do not permit this. S/he is more likely to attribute the poorer than expected evaluation to any of a host of other factors, unrelated to actual performance. Consequently, the evaluation is not perceived as being soundly-based and, therefore, does not promote efficacy. If the individual

had received a positive evaluation (and, hence one that sense-making powers perceived as being soundly-based), for less than positive performance, the evaluation would not have promoted accountability. Thus, leaders are faced with a paradox. To the extent that evaluations serve accountability, they do not promote efficacy; to the extent they promote efficacy, they do not serve accountability. Which strategy does a leader choose?

This study examined the relationship between accountability, efficacy and organizational effectivness by integrating findings from existing R and D reports on Management by Objectives (MBO), an accountabilty intervention that incorporates elements and processes of both accountability (goal-setting, measuring and monitoring, feedback) and efficacy (e.g. subordinate participation, interaction with supervisors).

II. OBJECTIVES and PROCEDURES:

The study had two objectives:

1. To describe and estimate the relationship between accountability and organizational outcomes, based on evidence from one intervention i.e. Management by Objectives.
2. To describe and estimate the effects of other

organizational elements and processes on accountability and efficacy in order to clarify the relationship between these two concepts.

Accountability was defined as, "the systematic effort to measure and monitor the extent to which individual or group performance matches organizational goals and, to communicate feedback that brings performance and goals into alignment". Efficacy was defined as, "the individuals perceived expectancy of obtaining valued outcomes through personal effort" (Fuller et.al., 1982, p.7). The source of data was R and D reports which studied the relationship between MBO and organizational outcomes. Organizational outcomes utilized were those used by the author of the R and D report being analyzed. Findings were qualitatively integrated using propositional analysis, a technique which traces findings, generalizations and recommendations and recasts them in ways that are relevant to the study.

III. INTRODUCTION

Management by Objectives (MBO) was created with the intention of developing a superior form of performance appraisal. Whereas traditional appraisal systems were based on both objective and subjective criteria that

were established solely by management, in MBO appraisal was based on measurable performance goals that were set jointly between superior and subordinate.

Formally defined, MBO is, "a managerial process whereby organizational purposes are diagnosed and met by joining superior and subordinate in the pursuit of mutually agreed upon goals and objectives, which are specific, measurable, time bounded, and joined to an action plan; progress and goal attainment are measured and monitored in appraisal sessions which center on mutually determined objective standards of performance" (McConkie, 1979).

MBO has achieved widespread acceptance in business, industry, schools and service organizations since its development. It has also been the subject of much writing in books, magazines and other periodicals. Yet its effects and the reason for these effects has seldom been examined. While Kondrasuk (1981) cites 185 works which address the effectiveness of MBO, the vast majority of these pieces are not R and D reports but rather "testimonial" type case reports. This study found only 17 studies that were R and D reports.

IV. FINDINGS:

Sample

Of the seventeen studies analyzed, fourteen measured MBO's effect on productivity and thirteen its effect on employee attitudes. The studies took place in a variety of organizations, ranging from manufacturing concerns to universities. Methodologies used in the studies varied with surveys frequently used to assess employee attitudes and experimental groups used to assess changes in productivity (see Table 1).

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insert Table 1 about here

Productivity

Of the seventeen studies analyzed, fourteen measured productivity. Eleven of the fourteen showed a positive effect of MBO on organizational productivity, two showed no statistically significant difference in performance after MBO implementation and, one showed a decrease in performance after implementation of MBO (see Table 2).

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insert Table 2 about here

While the studies appear to present a strong argument in favor of MBO's positive effect on productivity, they must be interpreted in the context of a finding by Muczyk (1978). Muczyk's study involved an experimental and two control groups. The first control group knew it was part of the study, but was not subjected to MBO. The second control group was not subjected to MBO nor were they aware that they were part of the study. All three groups were matched. Twelve months after MBO was implemented, the performance of the three groups was measured. All the groups showed statistically significant improvements in performance when compared with their pre-experiment performance, but no group improved significantly more than any of the other groups. Muczyk writes, "if the author had not used control groups, this study could have been interpreted as a testimonial on behalf of MBO". If we examine the nine studies that showed increased productivity after the implementation of an MBO program, we find that only 4 of them used control groups (Dossett, 1979; Hollingsworth, 1978; Ivancevich 1974, 1976). The

Hollingsworth (1978) study obtained results similar to those of the Muczyk study, that is, both the experimental and control groups improved, but without a statistically significant difference between the two. The other three studies all showed greater productivity for the experimental groups when compared with the control groups, but in each case, productivity gains dissipated within 8 to 36 months.

Attitudes

Of the 17 studies analyzed, 13 measured the effect of MBO on employee attitudes (see Table 3). Seven of the 13 studies showed a positive effect on attitudes; 3, a negative effect on attitudes and; 3, no effect on attitudes.

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insert Table 3 about here

Efficacy Elements/Processes

While the above findings indicate a generally positive effect of MBO on productivity and attitudes, the study surfaced a number of elements and processes in MBO

programs that have been linked with efficacy. Specifically cited were:

1. participation, which increases the individuals effect on organizational outcomes;
2. superordinate-subordinate interaction which facilitates resource exchange and in turn, leads to greater organizational efficacy (Fuller, 1982);
3. managerial support, which creates conditions that allow the individual to be effective, and;
4. positive reinforcement, which promotes a feeling in the individual that s/he is effective.

The presence of efficacy-building elements in MBO raised the question of whether the outcomes attained after MBO implementation were a result of the accountability elements and/or the efficacy elements. In an attempt to shed light on this question, the implicit and explicit effects of these elements and processes on organizational outcomes were examined.

Participation

Several studies that examined the effects of assigned versus participatively set goals (see Table 4) found that both methods of goal-setting improve productivity,

with neither method being clearly superior to the other. Neither Dossett (1970), Carroll (1970) nor Ivancevich (1976) found participatory goal-setting to result in improved productivity when compared with assigned goal-setting. Only Meyer (1965) found participatory goal-setting to have a positive effect on productivity.

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insert Table 4 about here

While participation in goal-setting did not affect productivity, two studies found that it did improve employee job attitudes (see Table 5). Both Meyer (1965) and White (1974) found that a high degree of employee participation in goal-setting favorably affected job satisfaction. Ivancevich (1976) also found improved attitudes in a participative goal-setting group but found a similar improvement also took place in the assigned goal-setting group. Tosi (1973) found that employees, involved in an MBO program that had consciously attempted to increase employee goal-setting participation, did not perceive themselves as having any additional influence after the change. Tosi speculated that this was because employees did not perceive their

bosses as functioning in a more participatory management style simply because a different method of goal-setting was used. He recommended that training methods be used that focused on changing management style. In a related finding, Terpstra, (1982) discovered that in a university setting the addition of an MBO program in which professors "contracted" for departmentally set goals led to a decrease in job satisfaction and to a perception of decreased individual efficacy. Terpstra speculated that professors, who are accustomed to autonomy and academic freedom, felt constrained and frustrated by an intervention that removed some of their freedom. The Tosi and Terpstra studies highlight the importance of employee percepetions. The perception employees have of the degree of participation in goal-setting may well be more important than the actual degree of participation.

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insert Table 5 about here

Positive Reinforcement

While only 3 of the studies specifically mentioned additional positive reinforcement as a characteristic of

the MBO program being studied with only one of these utilizing MBO both with and without positive reinforcement, all 3 studies showed increases in productivity (see Table 6). Ivancevich (1974) found that, in a comparison of two experimental plants using MBO, the plant using positive reinforcement not only showed significantly better results than the non-positive reinforcement plant, but also improved its own performance significantly during the reinforcement period when compared with pre-reinforcement periods. Migliore (1977a) and Futrell (1977) also found that productivity improved when positive reinforcement was a component of the MBO program.

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insert Table 6 about here

At the opposite end of the reinforcement spectrum, Meyer (1965) found that employees who received an above average amount of criticism in an MBO program showed less goal achievement and exhibited more defensive behavior than those who received a below average number of criticisms. In addition, improvement in the most criticized areas of performance was considerably less

than improvement in other areas. Meyer speculated that the reason frequent employee criticism led to a decrease in employee performance was that criticism was such a strong threat to self-esteem that it disrupted, rather than enhanced, performance.

The presence of positive feedback is also a frequently cited contributing factor to improved employee attitudes in MBO programs (see Table 7). Ivancevich (1970), found that the more feedback an employee received, the more satisfied the employee was with his/her job. In a later study, Ivancevich found that the addition of positive reinforcement to an MBO program caused the previously escalating grievance rate to decrease (1974). Migliore (1977a) and White (1974) found improved employee attitudes when positive reinforcement was used in an MBO program. Futrell (1977), however, found that there was no change in attitudes after the addition of positive reinforcement to an MBO program. This, however, may have been due to the mitigating influence of increased accountability and decreased goal-setting participation, which occurred simultaneously.

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insert Table 7 about here

Superordinate-Subordinate Interaction

Increased interaction between superordinate and subordinate also has been found to positively affect job perceptions (see Table 8). Ivancevich (1970), Meyer (1965), Migliore (1977b) and White (1974) all reported that an increase in superior-subordinate interaction resulted in improved employee attitudes.

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insert Table 8 about here

Management Support

Upper management support of MBO also plays a part in developing positive employee attitudes (see Table 9). Carroll (1970), Ivancevich (1970) and Shetty (1974) found that there was a correlation between high supportiveness on the part of managers and positive subordinate attitudes.

insert Table 9 about here

VII. SUMMARY OF FINDINGS

Findings from the efficacy elements and processes are summarized in Table 10.

insert Table 10 about here

When these findings are combined with the previously discussed effects of MBO in general, several conclusions become apparent:

1. MBO strongly and positively effects productivity;
2. MBO has a lesser, but still positive effect on attitudes;
3. efficacy elements in an MBO program strongly and positively effect attitudes;
4. efficacy elements have a lesser, but still positive, effect on productivity.

These conclusions are graphically depicted in Figure 1.

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insert Figure 1 about here

Conflictual Nature of Efficacy-Accountability

Several problems, rooted in the conflictual nature of accountability and efficacy, surfaced during the course of the research. The problems are related, but each occurs at different stages of the MBO intervention and takes the previous problem to a greater level of specificity. These problems made it difficult to determine what had caused the organizational outcome attained in a particular study.

On the most general level, the problem concerns the philosophy and purpose underlying MBO's use in an organization. MBO includes principles of both efficacy, ("We believe you are intrinsically motivated and want to do your best so we'll let you participate in setting your own goals") and accountability, ("We have to have a way to make sure you're doing what we want you to do, so we'll hold you accountable for the goals we've set"). Tosi and Carroll (1973) highlighted this when they wrote, "It (MBO) has been, depending on who is using it, an evaluation tool...a technique for organizational

development, and a way to increase the participation and influence of subordinates" (p.57). In a similar vein, Raia (1966), in referring to an existent MBO program, wrote, "A management system of this type can be made to move in either direction" (that is, as a "whip", or as a "motivator") (p.57).

On the next level, the problem is one of implementation. The presence of both efficacy and accountability elements in one intervention leaves open the probability that when MBO is implemented, situations will occur where accountability and efficacy become conflictual. For example, what happens when supervisor and subordinate cannot agree upon goals? Or, when what's best for the individual is not what's best for the organization? Is the individual held accountable for the organization's goals or, is s/he allowed to help chart the path of the organization by striving for goals that are different from the organizational norm? In effect, how does an organization implement MBO?

On the most specific level, the problem is one of decision-making. Specifically, this problem deals with what decision is made when an efficacy-accountability conflict situation arises after MBO has been implemented

in an organization. For example, what happens when goals are not attained? Or, when one's best is not good enough for the organization? Does reinforcement of positive attainments take place or, are sanctions applied for those areas where performance has not measured up to goals?

At each level, decisions made are likely to effect decisions made at the next level. For example, opting for efficacy at the philosophy level is likely to effect the way MBO is implemented. However, while a decision at one level is likely to effect decisions at the next level, it does not preclude the opposite choice at the latter level. For example, an organization may decide to use MBO in order to increase employees participation in goal-setting. While this decision increases the likelihood that employees will have more participation in setting their goals, it does not preclude the possibility of a manager imposing his/her personal goals for an employee upon that individual. The three-pronged problem is illustrated in figure 2.

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insert Figure 2 about here

VIII. CONCLUSION:

Considering MBO's widespread use, we have a relatively small number of studies supporting such a commonly accepted management intervention.

While MBO programs generally lead to improved productivity and attitudes, several factors leave the cause of the gains open to interpretation:

1. the frequent absence of control groups;
2. a failure to note the specific management philosophy behind each specific MBO program;
3. a lack of description of the implementation process and its effects;
4. a lack of description of the day-to-day decision-making and its effects, specifically as it pertains to efficacy-accountability conflict situations.

Research is needed that addresses these concerns and isolates the effects of various characteristics of MBO programs (e.g. positive reinforcement, increased interaction, upper management support).

Finally, decisions regarding the use of MBO should include more than considerations of organizational productivity. Terpstra (1982) writes, "If MBO leads to

long-term dissatisfaction among faculty, administrators must weigh carefully the trade-offs associated with dissatisfaction on the one hand and increases in performance on the other" (p.365). If individuals spend time in organizations only to serve the needs and goals of the organization, then the individual will ultimately serve the organization with less than his/her full potential. Goals serving only organizational needs will alienate, disenchant and limit an individual's potential. The challenge for administrators lies not in weighing trade-offs of organization versus individual, but in discovering processes that serve the needs of both.

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Table 1: Studies Contained in Sample

Study	Organization Type	Sample Size	Methodology
Carroll (1970)	manufacturing	129	survey
Dossett (1979)	"international corporation"	60	experimental control
Futrell (1977)	hospital supply	230	survey
Hollingsworth (1978)	hospital	NA	survey (pre-post) experimental control
Ivancevich (1970)	manufacturing	NA	survey
Ivancevich (1974)	manufacturing	181*	experimental control longitudinal
Ivancevich (1976)	sales (retail)	104	experimental control longitudinal
Meyer (1965)	manufacturing (General Electric)	92	experimental control survey (pre-post) interviews
Migliore (1977a.)	loading docks	210	survey
Migliore (1977b.)	can manufacturer	60	experimental control longitudinal
Muczyk (1978)	bank	32 banks	experimental control longitudinal
Pala (1966)	manufacturing (Purex)	15 plants	experimental longitudinal
Shetty (1974)	university	109	survey
Terpstra (1982)	university	23	survey interview
Timm (1977)	community service	44	survey
Tosi (1973)	not available	120	survey interview
White (1974)	health care	114	survey interview

Table 2: Effect of MBO Programs on Productivity

STUDY	PRODUCTIVITY EFFECT
Carroll (1970)	0
Dossett (1979)	+
Futrell (1977)	+
Hollingsworth (1978)	+ (*)
Ivancevich (1974)	+
Ivancevich (1976)	+
Meyer (1965)	-
Migliore (1977a.)	+
Migliore (1977b.)	+
Muczyk (1978)	+ (*)
Rala (1966)	+
Shetty (1974)	+
Terpstra (1982)	+
Tosi (1973)	0

\+ study showed positive effect
\- study showed negative effect
0 study showed no change
(*) both the experimental and the control group improved; no statistically significant intragroup difference

Table 3: Effect of MBO Programs on Employee Attitudes

STUDY	ATTITUDINAL EFFECT
Carroll (1970)	+
Futrell (1977)	0
Ivancevich (1970)	+
Ivancevich (1974)	-
Ivancevich (1976)	+
Meyer (1965)	-
Migliore (1977a.)	+
Muczyk (1979)	0
Shetty (1974)	+
Terpstra (1982)	-
Timm (1977)	+
Tosi (1973)	0
White (1974)	+

\+ study showed positive effect
\- study showed negative effect
0 study showed no change

Table 4: Effect of Participation in Goal-Setting on Productivity in MBO Programs*

STUDY	PRODUCTIVITY
Carroll (1970)	0
Dossett (1979)	0
Ivancevich (1976)	0
Meyer (1965)	+

\+ study showed positive effect
0 study showed no change
* when compared with assigned goal-setting

Table 5: Effect of Participation on Attitudes in MBO Programs*

STUDY	ATTITUDES
Ivancevich (1976)	0
Meyer (1965)	+
Tosi (1973)	0
White (1974)	+

\+ study showed positive effect
0 study showed no change
* when compared with assigned goal-setting

Table 6: Effect of Positive Reinforcement on Productivity in MBO Programs

STUDY	PRODUCTIVITY
Futrell (1977)	+
Ivancevich (1974)	+
Migliore (1977a.)	+ (**)

\+ study showed positive effect
(**) effect measured in conjunction with effects of other characteristics

Table 7: Effect of Positive Reinforcement on Attitudes in MBO Programs

STUDY	ATTITUDES
Futrell (1977)	0 (**)
Ivancevich (1970)	+
Ivancevich (1974)	+
Migliore (1977a.)	+ (**)
White (1974)	+

\+ study showed positive effect
0 study showed no change
(**) effect measured in conjunction with effects of other characteristics

Table 8: Effect of Increased Superior-Subordinate Interaction on Attitudes in MBO Programs

STUDY	ATTITUDES
Ivancevich (1970)	+
Meyer (1965)	+
Migliore (1977b)	+ (**)
White (1974)	+

\+ study showed positive effect
(**) effect was measured in conjunction with effects of other characteristics

Table 9: Effects of Upper Management Support in MBO Programs on Employee Attitudes

STUDY	ATTITUDES
Carroll (1970)	+
Ivancevich (1970)	+
Ivancevich (1974)	+ (**)
Shetty (1974)	+

\+ study showed positive effect
(**) effect measured in conjunction with effects of other characteristics

Table 10: Combined Effects of Efficacy Elements and Processes on Organizational Outcomes

ELEMENT/PROCESS	PRODUCTIVITY EFFECT	ATTITUDINAL EFFECT
Participation	+ 000	++ 00
Support		++++
Interaction (with supervisor)		++++
Positive Reinforcement	+++	++++ 0

\+ indicates a study showing positive effect
\- indicates a study showing negative effect
0 indicates a study showing no change in category

	Productivity	Attitudes
Efficacy	+	++
MBO	++	+

Figure 1: The effects of MBO and efficacy elements and processes on organizational outcomes.

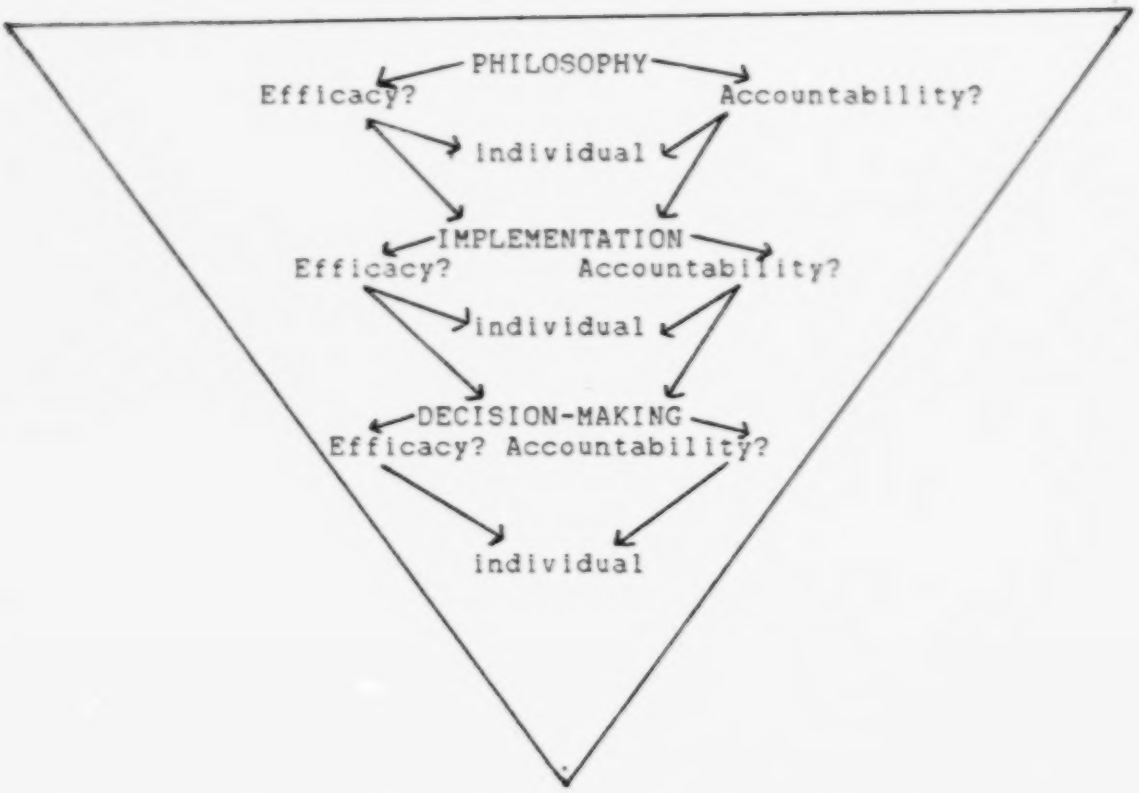

Figure 2: A depiction of the levels of conflict between efficacy and accountability in MBO intervention.